

Appendix to Appropriate Assessment Report

Appendix A4: Aquatic Habitats & Species Fieldwork & Survey Results

The data and descriptions in this appendix have informed the cumulative evaluations in the Appropriate Assessment Report.

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AA4.1 Fieldwork - Aquatic Habitats & Species

AA4.1.1 Watercourse Surveys for UWF Grid Connection

Following a comprehensive desktop review to identify watercourses along the UWF Grid Connection, various field surveys took place.

A **watercourse characteristics survey** of crossing locations along the UWF Grid Connection route (by INIS Ecologists and members of the HES team) was carried out visually on the 17th, 22nd, 23rd and 28th of January 2019, and on the 30th of May, during which the following physical parameters and habitat quality indicators were recorded at each watercourse crossing point:

- *Grid coordinates of the crossing point;*
- *Watercourse feature i.e. drain, stream or river;*
- *Crossing type e.g. existing culvert, new crossing;*
- *Channel width and depth (m);*
- *Substrate type - listing substrate fractions in order of dominance i.e. large rocks, cobble, gravel, sand, mud, etc.*
- *Target notes on fisheries habitat and character including: features such as extent of riffle and glide/bank stability; salmonid suitability i.e. spawning / juvenile rearing habitat; and lamprey suitability.*

For additional information see Chapter 11: Water and relevant associated Appendices.

Surveys of watercourse crossing locations located on haulage routes associated with the UWF Grid Connection were carried out on the 7th and 8th June, 2017. (Haulage routes for this 2nd UWF Grid Connection application (2019) application were also considered as part of the Haulage routes for the 1st UWF Grid Connection application (2018)).

AA4.1.2 Watercourse Classification

Watercourses have previously been characterised into 4 classes- Class 1 to Class 4:

Using a combination of the following Best Practice we evaluated each watercourse crossing for fisheries and assigned a fisheries importance rating of Class 1 (EPA Blue Line) or Class 2 (EPA Blue Line Equivalent watercourse) which were evaluated as having Optimal fisheries value, Class 3 for watercourses with Sub-Optimal fisheries value or Class 4 for watercourses with Poor fisheries value. We note that instances of marginal fisheries value (typically between Sub-Optimal and Poor) were subsumed into the Sub-Optimal category to allow for more robust evaluation of effects.



Best Practice literature utilised was as follows:

- Barbour, M.T. and Stribling, J.B. (1991) Use of Habitat Assessment in Evaluating the Biological Integrity of Stream Communities. In: Methods in Stream Ecology (Eds. Hauer, F.R. and Lamberti, G.A. Academic Press.
- Kelly & King (2001) A review of the ecology and distribution of three lamprey species, *Lampetra fluviatilis* (L.), *Lampetra planeri* (Bloch), and *Petromyzon marinus* (L.): A context for conservation and biodiversity considerations in Ireland. *Biology and the Environment*. 101B(3):165-185.
- Kennedy, GJA & Strange, CD (1986) The effects of intra- and inter-specific competition on the distribution of stocked juvenile Atlantic salmon, *Salmo salar* L., in relation to depth and gradient in an upland trout, *Salmo trutta* L., stream. *J. Fish. Biol.*, 29(2):199-214.
- Greenberg, L.A. and Dahl, J. 1998. Effect of habitat type on growth and diet of brown trout (*Salmo trutta* L.) in stream enclosures. *Fisheries Management & Ecology* 5: 331-348.
- Hatfield, T. & Bruce, J. (2000) Predicting Salmonid Habitat-Flow Relationships for Streams from Western North America. *North American Journal of Fisheries Management* 20:1005–1015, 2000
- O'Grady, M.F., Curtin, J (1993) The Enhancement of drained salmonid rivers in Ireland. A bioengineering perspective. *Hydroecol. Appl.*, 5(2):7-26.

Watercourse Characterisations and equivalent fisheries Evaluations (following Best Practice) are presented in Section A8-2.2 Survey Results – Aquatic Habitats & Species.

AA4.2 Survey Results - Inventory & Classification of Watercourses at Crossing Locations

Photos of Watercourse Crossings at the Mountphilips Substation site

	<p>Watercrossing Structure W1 (<i>Temporary Crossing</i>)</p> <p>Type: 1st Order Stream</p> <p>Fisheries: Class 2, Optimal Fisheries</p> <p>Location: Mountphilips Substation Site</p> <p>Existing Structure: No existing crossing structure</p> <p>Works at Crossing: Cable trenching under stream bed using dam & pump (flume) method. Temporary Bailey Bridge.</p> <p>Ecology Notes: c. 2 m wide, c. 10 cm deep, gravel (70), cobbles (5), boulders (5), sands/silts (20)</p>
	<p>Watercrossing Structure W2</p> <p>Type: Drainage Ditch</p> <p>Fisheries: Sub-Optimal Fisheries</p> <p>Location: Mountphilips Substation Site</p> <p>Existing Structure: No existing crossing structure</p> <p>Works at Crossing: Installation of new permanent culvert. Cable trenching under new culvert.</p> <p>Ecology Notes: c. 0.5 m wide, c. 10 cm deep, silts/muds (100)</p>
	<p>Watercrossing Structure W3</p> <p>Type: 1st Order Stream</p> <p>Fisheries: Class 2, Optimal Fisheries</p> <p>Location: Mountphilips Substation Site</p> <p>Existing Structure: No existing crossing structure</p> <p>Works at Crossing: Installation of new permanent culvert. Cable trenching under new culvert.</p> <p>Ecology Notes: c. 1 m wide, c. 10 cm deep, cobbles (20), gravels (40), sands/silts (40)</p>

Photos of UWF GRID CONNECTION Bridges / Culverts along Public Roads



Watercrossing Structure W4

Type: Stream

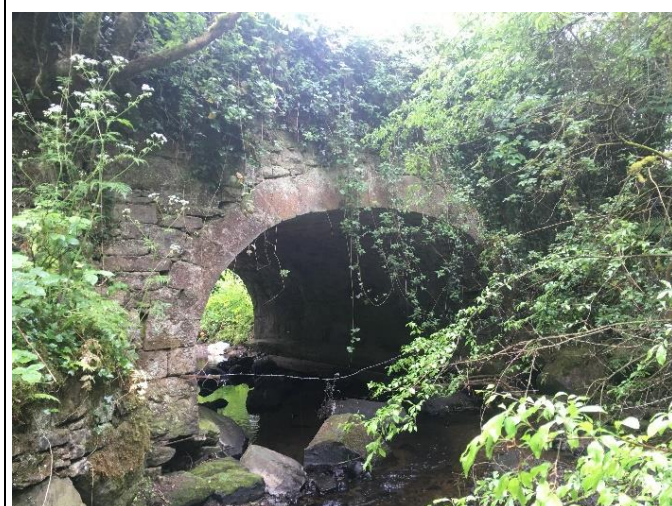
Fisheries: Class 3, Sub-optimal Fisheries

Location/Townland: L2166-0, Coole/Freagh

Existing Structure: Concrete Block Box Culvert

Works at the Crossing: Cable trenching under structure

Ecology Notes: Downstream - Slow flowing, Coble (60), Gravel (40). Overgrown, vegetation shading. 1 metre wide and ~30cm deep.



Watercrossing Structure W5

Type: River

Fisheries: Class1, Optimal Fisheries

Location/Townland: L6013-0, Foildarrig/Freagh

Existing Structure: Masonry Single Arch Bridge

Works at the Crossing: Cable trenching over structure

Ecology Notes: Upstream - riffle/glide sequence and pool. Bolder (30), cobble (30), sand/gravel (40). Culvert pipe also flowing into river. Downstream - Riffle and pool present. Sand gravel under bridge (60), boulders/cobble(40).



Watercrossing Structure W6

Type: Stream




Fisheries: Class 3, Sub-Optimal Fisheries




Location/Townland: L6013-0, Oakhampton




Existing Structure: Concrete Circular Culvert



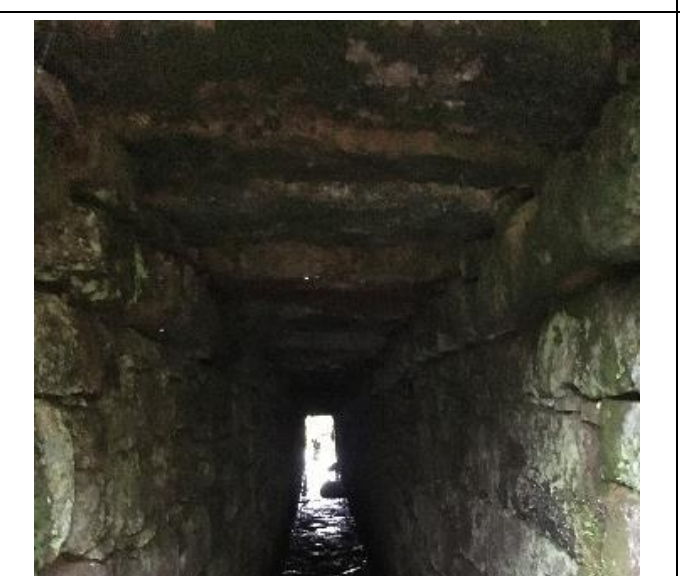
Works at the Crossing: Cable trenching over structure




Ecology Notes: Pipe culvert with stream through it. Bolder (50), mud/gravel (50).




	<p>Watercrossing Structure W7</p> <p>Type: River</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: Rockvale Bridge, L2156-0, Oakhampton/Rockvale</p> <p>Existing Structure: Masonry Single Arch Bridge</p> <p>Works at the Crossing: Cable trenching over structure. Additional works to raise road level & parapet wall height</p> <p>Ecology Notes: Upstream - riffle and white water. Bedrock (70), cobble (20), sand (10). Deep water - could not judge depth. Downstream - white water, small riffle and some pooling. Deep water.</p>
	<p>Watercrossing Structure W8</p> <p>Type: Stream</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: L6009-0, Ahane/Castlewaller</p> <p>Existing Structure: Concrete Slab Bridge</p> <p>Works at the Crossing: Directional Drill under stream bed.</p> <p>Ecology Notes: Upstream - small riffle and glide. Pooling. Moderate flow. Cobble (70), gravel (30). Downstream - riffle and glide, pool at bridge. Cobble (60), gravel (40).</p>
	<p>Watercrossing Structure W9</p> <p>Type: Stream</p> <p>Fisheries: Class 1, Optimal Fisheries</p> <p>Location/Townland: L6009-0, Castlewaller/Carrowkeale</p> <p>Existing Structure: Concrete Slab Bridge</p> <p>Works at the Crossing: Directional Drill under stream bed.</p> <p>Ecology Notes: Upstream - riffle and glide and pool (with sand). Sand (30), cobble (50), gravel (20). Downstream - flat rock (40), boulders (30), cobble (30), riffle. Some pooling at edge, no visible build-up of sand. Fast flowing.</p>




	<p>Watercrossing Structure W10 Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Kilnacappagh</p> <p>Existing Structure: HDPE Plastic Circular Culvert Works at the Crossing: Cable trenching over structure</p> <p>Ecology Notes: deep, drained, flow</p>
	<p>Watercrossing Structure W11 Type: Stream Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Scrageen/Derrygareen</p> <p>Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure</p> <p>Ecology Notes: c. 1 m wide, c. 20 cm deep</p>
	<p>Watercrossing Structure W12 Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Derrygareen</p> <p>Existing Structure: Masonry Box Culvert & Circular Concrete Culvert Works at the Crossing: Cable trenching under structure</p> <p>Ecology Notes: c. 0.8m wide, c. 15 cm deep</p>

	<p>Watercrossing Structure W13</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Knockancullenagh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Potential</p>
	<p>Watercrossing Structure W14</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Knockancullenagh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: steep gradient, cobble/gravel. 100% shade</p>
	<p>Watercrossing Structure W15</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Knockancullenagh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Potential</p>




	<p>Watercrossing Structure W16</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Knockancullenagh</p> <p>Existing Structure: Plastic Circular Culvert.</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential</p>
	<p>Watercrossing Structure W17</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Knockancullenagh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Potential, steep</p>
	<p>Watercrossing Structure W18</p> <p>Type: Stream, 2nd Order</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Knockancullenagh/Fanit</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: steep, boulder cobble pool riffle. Downstream 100% shade, steep gradient</p>

	<p>Watercrossing Structure W19</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Fanit</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Potential</p>
	<p>Watercrossing Structure W20</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Fanit</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Potential 100% shade downstream</p>
	<p>Watercrossing Structure W21</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Fanit</p> <p>Existing Structure: Masonry Single Arch Bridge</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential 100% shade downstream</p>




	<p>Watercrossing Structure W22</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Fanit/Lackamore</p> <p>Existing Structure: Masonry Single Arch Bridge</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: steep/cascade</p>
	<p>Watercrossing Structure W23</p> <p>Type: Stream</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Lackamore</p> <p>Existing Structure: Masonry Arch Bridge</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential Upstream:100% shade. Minor steep cascades Downstream: 100% shade</p>
	<p>Watercrossing Structure W24</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Lackamore</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential</p>


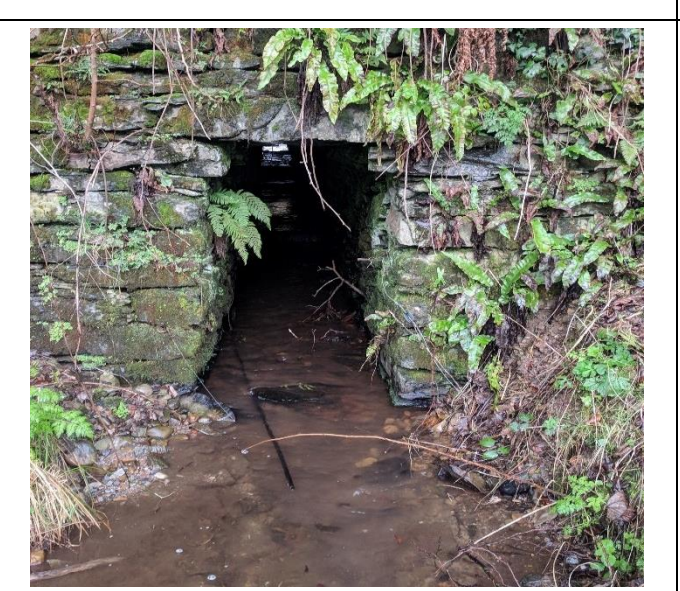

	<p>Watercrossing Structure W25</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Lackamore</p> <p>Existing Structure: Plastic Circular Culvert Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential, Steep Gradient</p>
	<p>Watercrossing Structure W26</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Lackamore</p> <p>Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential, Steep Gradient</p>
	<p>Watercrossing Structure W27</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Lackamore</p> <p>Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential, Steep Gradient</p>


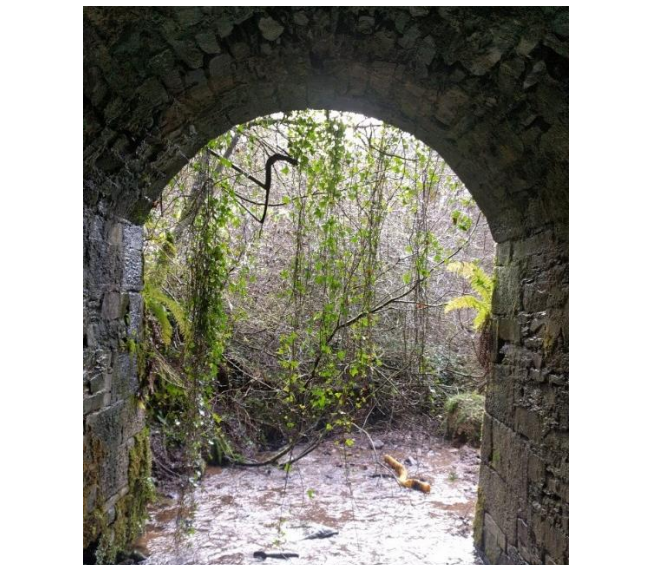

	<p>Watercrossing Structure W28</p> <p>Type: Stream</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Lackamore/Tooreenbrien Upper</p> <p>Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: No Fisheries Value Upstream: steep/cascade Boulder/cobble</p>
	<p>Watercrossing Structure W29</p> <p>Type: Stream</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Upper</p> <p>Existing Structure: Concrete Slab Bridge Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value 100% cover, steep gradient. Boulder cascade.</p>
	<p>Watercrossing Structure W30</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Upper</p> <p>Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value</p>

	<p>Watercrossing Structure W31</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Upper</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at the Crossing: Crossing under new existing culvert</p> <p>Ecology Notes: No Fisheries Value, Steep Gradient</p>
	<p>Watercrossing Structure W32</p> <p>Type: Minor Stream</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Upper</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W33</p> <p>Type: Stream</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Upper/Tooreenbrien Lower</p> <p>Existing Structure: Masonry Arch Bridge - Single</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: cobble substrate, drained, channelised, riffle/glide</p>

	<p>Watercrossing Structure W34</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Lower</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W35</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Tooreenbrien Lower</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W36</p> <p>Type: River</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: Tooreenbrien Bridge, R503, Tooreenbrien Lower/Reardnogy Beg</p> <p>Existing Structure: Masonry Arch Bridge - Double</p> <p>Works at the Crossing: Cable trenching over structure. Additional works to raise road level & parapet wall height</p> <p>Ecology Notes: c. 5 m wide, c. 100cm deep</p>

	<p>Watercrossing Structure W37</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Reardnogy Beg</p> <p>Existing Structure: Masonry Arch</p> <p>Works at the Crossing: Crossing over culvert</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W38</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Reardnogy Beg/Reardnogy More</p> <p>Existing Structure: Plastic Circular Culvert</p> <p>Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: c. 0.7 m wide, c. 140cm deep</p>
	<p>Watercrossing Structure W39</p> <p>Type: Stream, 2nd Order</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Reardnogy More</p> <p>Existing Structure: Plastic Circular Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: c. 0.6 m wide, c. 100cm deep</p>

	<p>Watercrossing Structure W40</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Rear Cross Village, Reardnogy More/ Shanballyedmond</p> <p>Existing Structure: Concrete Circular Culvert X 3</p> <p>Works at the Crossing: Cable trenching under structures.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W41</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Reardnogy More/Baurnadomeeny</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: Downstream:, cobble gravel substrate, riffle, steep banks</p>
	<p>Watercrossing Structure W42</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Baurnadomeeny</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Potential</p>

	<p>Watercrossing Structure W43</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Bournadomeeny</p> <p>Existing Structure: Masonry Arch</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: cobble gravel substrate, riffle, steep banks</p>
	<p>Watercrossing Structure W44</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Bournadomeeny</p> <p>Existing Structure: Masonry Arch</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: cobble gravel substrate, riffle, steep banks</p>
	<p>Watercrossing Structure W45</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Bournadomeeny/Coonmore</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: Riffle / glide, cobble substrate, channelised</p>



Watercrossing Structure W46

Type: Drain

Fisheries: Class 4, Poor Fisheries

Location/Townland: R503, Coonmore

Existing Structure: Masonry Box Culvert

Works at the Crossing: Cable trenching over structure.

Ecology Notes: No Fisheries Value



Watercrossing Structure W47

Type: Drain

Fisheries: Class 4, Poor Fisheries

Location/Townland: R503, Coonmore

Existing Structure: Masonry Box Culvert

Works at the Crossing: Cable trenching over structure.

Ecology Notes: No Fisheries Value



Watercrossing Structure W48

Type: Drain




Fisheries: Class 4, Poor Fisheries




Location/Townland: R503, Coonmore

Existing Structure: Plastic Circular Culvert




Works at the Crossing: Cable trenching over structure.




Ecology Notes: No Fisheries Value




	<p>Watercrossing Structure W49</p> <p>Type: River</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: R503, Coonmore/Foildarragh</p> <p>Existing Structure: Masonry Arch</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: Cobble/gravel, channelised, riffle</p>
	<p>Watercrossing Structure W50</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Foildarragh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value, Very steep gradient, in gorge, 100% cover.</p>
	<p>Watercrossing Structure W51</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Foildarragh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value, Very steep gradient, in gorge, 100% cover.</p>

	<p>Watercrossing Structure W52</p> <p>Type: Stream, 1st Order</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Foildarragh</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: No Fisheries Value, steep, drained</p>
	<p>Watercrossing Structure W53</p> <p>Type: River</p> <p>Fisheries: Class1, Optimal Fisheries</p> <p>Location/Townland: Anglesey Bridge, R503, Foildarragh/Kilcommon</p> <p>Existing Structure: Double Masonry Arch</p> <p>Works at the Crossing: Cable trenching over structure, additional works to raise road level & parapet wall height</p> <p>Ecology Notes: U/s: riffle, glide channelized, cobble gravel, sand</p>
	<p>Watercrossing Structure W54</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Kilcommon</p> <p>Existing Structure: Plastic Circular Culvert</p> <p>Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: No Fisheries Value</p>

	<p>Watercrossing Structure W55</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Kilcommon</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W56</p> <p>Type: Drain</p> <p>Fisheries: Class 3, Sub-optimal Fisheries</p> <p>Location/Townland: R503, Kilcommon</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value, some flow</p>
	<p>Watercrossing Structure W57</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Kilcommon/Loughbrack</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>

	<p>Watercrossing Structure W58</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Loughbrack</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W59</p> <p>Type:</p> <p>Upstream: Drain, Downstream: Stream, 1st Order</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Loughbrack</p> <p>Existing Structure: Concrete Culvert & Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structures.</p> <p>Ecology Notes: No Fisheries Value. Downstream: flow, through forestry</p>
	<p>Watercrossing Structure W60</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Loughbrack</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>

	<p>Watercrossing Structure W61</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: R503, Knocknabansha/Knockmaroe</p> <p>Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W62</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: L2264-50, Knockmaroe</p> <p>Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W63</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: L2264-50, Knockmaroe/Knockcurraghbola Crownlands</p> <p>Existing Structure: Circular Concrete Culvert Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: No Fisheries Value</p>

	<p>Watercrossing Structure W64</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: L2264-50, Knockmaroe</p> <p>Existing Structure: Masonry Box Culvert</p> <p>Works at the Crossing: Cable trenching under structure. Culvert may need replacing.</p> <p>Ecology Notes: No Fisheries Value</p>
	<p>Watercrossing Structure W65</p> <p>Type: Stream</p> <p>Fisheries: Class 2, Optimal Fisheries</p> <p>Location: L6188-0, Knockmaroe</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at Crossing: Cable trenching under structure.</p> <p>Ecology Notes: Steady flow to 20 cm deep with wetted width of c. 1 m. gravel bed.</p>
	<p>Watercrossing Structure W66</p> <p>Type: Drain</p> <p>Fisheries: Class 4, Poor Fisheries</p> <p>Location/Townland: L6188-0, Knockmaroe</p> <p>Existing Structure: Concrete Circular Culvert</p> <p>Works at the Crossing: Cable trenching under structure.</p> <p>Ecology Notes: No Fisheries Value</p>

Photos of UWF GRID CONNECTION Bridges / Culverts along Private Paved Road



Watercrossing Structure W67

Type: Drain

Fisheries: Class 4, Poor Fisheries

Location/Townland: Private Paved Road,
Knockcurraghbola Commons

Existing Structure: Concrete Circular Culvert
Works at the Crossing: Cable trenching under
structure.

Ecology Notes: c. 0.5 m wide, 10 cm deep



Watercrossing Structure W68

Type: Drain

Fisheries: Class 4, Poor Fisheries

Location/Townland: Private Paved Road,
Knockcurraghbola Commons

Existing Structure: Concrete Circular Culvert
Works at the Crossing: Cable trenching under
structure.

Ecology Notes: No Fisheries Value, Slow flowing

